

What is claimed is:

1. A device for treating pneumothorax, tension pneumothorax, and/or hemothorax, comprising:

a trocar obturator unit comprising a stylet with a distal end and a proximal end, wherein the proximal end of said stylet has a point for puncturing a body cavity, and wherein a stopper is coupled to said stylet distally of said point;

a catheter assembly comprising (a) a tube dimensioned to receive said stylet, said tube having, a lumen, an open-ended distal end portion and an open-ended proximal end portion and at least one fluid opening through the sidewall, and (b) a hub coupled to said open-ended distal end portion, wherein a lumen of said hub is continuous with the lumen of said tube and dimensioned to receive at least a portion of said stopper to position the stylet relative to the catheter assembly and seal the lumen of said hub; and

a one-way valve, wherein one end of said one-way valve is sealed to at least a portion of said hub, said one-way valve being configured such that the lumen of the one-way valve is continuous with the lumens of said tube and said hub.

2. The device claim 1, wherein the point on the proximal end of said stylet extends beyond the proximal end portion of said tube when said stylet is inserted into said catheter assembly.

3. The device of claim 1, wherein the diameter of said stopper is larger than the diameter of the lumen of said one-way valve.

4. The device of claim 1, wherein at least a portion of said stopper is removably retainable in at least a portion of said hub.

5. The device of claim 1, wherein at least one of the exterior of said stopper or the interior of said one-way valve is coated with a lubricant.
6. The device of claim 1, wherein said trocar obturator unit further comprises a pull-handle attached to said stopper.
7. The device of claim 1, wherein said pull-handle is a ring.
8. The device of claim 1, wherein said pull-handle is a tab.
9. The device of claim 1, wherein an annular recess is formed in the outside wall of said hub.
10. The device of claim 9, wherein said one-way valve is secured to said hub by a retaining ring positioned over said one-way valve within said recess.
11. The device of claim 9, wherein said one-way valve is secured to said hub by at least one band unwindably positioned over said one-way valve within the recess of said hub, and wherein at least one adhesively-coated tab is attached to said at least one band for securing said device to a patient.
12. The device of claim 11, wherein said at least one tab includes a removable covering for maintaining said adhesive during periods of non-use.
13. The device of claim 1, further comprising a disk coupled to said catheter assembly for securing said trocar unit to a patient.
14. The device of claim 6, wherein at least one of said stylet, catheter assembly, one-way valve, and pull-handle, are composed of a radio-opaque material.
15. The device of claim 1, wherein said tube is kink-resistant.

16. The device of claim 1, wherein said tube is composed of coiled monofilament polymer fiber coated with a biologically inert plastic.

17. A method of treating a pneumothorax, tension pneumothorax, and/or hemothorax comprising the steps of (a) inserting at least the proximal portion of the device of claim 1 into the affected site within the body cavity of a patient, and (b) removing the trocar obturator unit from the catheter assembly.